

In the Claims

What is claimed is:

1. (Canceled) A method of building a display device, the method comprising:
providing a liquid crystal panel including liquid crystal molecules contained between glass substrates, wherein long axes of the liquid crystal molecules are oriented orthogonal to the glass substrates in absence of electrical field;
coupling a set of compensation films to at least one of the glass substrates, wherein the set of compensation films includes one or more uniaxial compensation films and provides a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;
coupling a polarization film to the set of compensation films; and
coupling electrodes to the liquid crystal panel.
2. (Currently Amended) ~~The method of Claim 1 further comprising~~ A method of building a display device, the method comprising:
providing a liquid crystal panel including liquid crystal molecules contained between glass substrates, wherein long axes of the liquid crystal molecules are oriented orthogonal to the glass substrates in absence of electrical field;
coupling a set of compensation films to at least one of the glass substrates, wherein the set of compensation films includes one or more uniaxial compensation films and provides a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;
coupling a polarization film to the set of compensation films;
coupling electrodes to the liquid crystal panel; and
making the total retardation value less than or equal to 160 nm for light having a wavelength of about 550 nm if the display device is a transmissive type.
- 3-9. (Canceled)
10. (Canceled) A display device comprising:

a liquid crystal layer disposed between glass substrates so that long axes of liquid crystal molecules are oriented orthogonal to the glass substrates;

a set of compensation films coupled to at least one of the glass substrates, wherein the set of compensation films are selected based on having a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;

a polarization film coupled to the set of compensation films; and

a first electrode and a second electrode coupled to the glass substrates.

11. (Canceled) The display device of Claim 10, wherein the glass substrates comprise:

a TFT panel that includes an array of thin film transistors; and
a color filter array panel.

12. (Currently Amended) The display device of Claim ~~11~~ 14, wherein the color filter array panel comprises:

a substrate;
a plurality of black matrices formed on the substrate;
color filters formed on the black matrices; and
a common electrode formed on the color filters.

13. (Canceled) The display device of Claim 11, wherein the TFT panel comprises:
a substrate;
gate wires formed on the substrate;
an insulating layer formed on the gate wires;
silicon stripes formed on the insulating layer;
ohmic contacts formed on the silicon stripes;
data wire formed on the ohmic contacts and intersecting some of the gate wires;
a passivation layer formed on top of the data wire; and
pixel electrodes formed on the passivation layer and selectively making contact with some of the data wire.

14. (Currently Amended) ~~The display device of Claim 13~~ A display device comprising:

a liquid crystal layer disposed between glass substrates so that long axes of liquid crystal molecules are oriented orthogonal to the glass substrates, wherein the glass substrates include a TFT panel that includes an array of thin film transistors and a color filter array panel, wherein the TFT panel comprises:

a substrate;

gate wires formed on the substrate;

an insulating layer formed on the gate wires;

silicon stripes formed on the insulating layer;

ohmic contacts formed on the silicon stripes;

data wire formed on the ohmic contacts and intersecting some of the gate wires;

a passivation layer formed on top of the data wire, wherein the passivation layer has an uneven surface with protrusions and depressions; and

pixel electrodes formed on the passivation layer and selectively making contact with some of the data wire; and

a set of compensation films coupled to at least one of the glass substrates, wherein the set of compensation films are selected based on having a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;

a polarization film coupled to the set of compensation films; and

a first electrode and a second electrode coupled to the glass substrates.

15. (Currently Amended) The display device of Claim ~~13~~ 14, wherein the pixel electrodes are made of a reflective material.

16. (Currently Amended) The display device of Claim ~~10~~ 14, wherein the polarization film is a first polarization film having a first polarization axis, further comprising a second polarization film coupled to the liquid crystal layer and having a second polarization axis that is oriented substantially perpendicular to the first polarization axis.

17. (Currently Amended) ~~The display device of Claim 10~~ A display device comprising:

a liquid crystal layer disposed between glass substrates so that long axes of liquid crystal molecules are oriented orthogonal to the glass substrates;

a set of compensation films coupled to at least one of the glass substrates, wherein the set of compensation films are selected based on having a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm, wherein the set of compensation films are selected based on having a total thickness equal to or less than 50 microns;

a polarization film coupled to the set of compensation films; and

a first electrode and a second electrode coupled to the glass substrates.

18. (Currently Amended) The display device of Claim ~~10~~ 14 further comprising a protective film coupled to the polarization film to protect the polarization film, the protective film including triacetate cellulose.

19. (Currently Amended) The display device of Claim ~~10~~ 14, wherein the set of compensation films have negativity and generates retardation.

20. (Currently Amended) ~~The display device of Claim 10 further comprising~~ A display device comprising:

a liquid crystal layer disposed between glass substrates so that long axes of liquid crystal molecules are oriented orthogonal to the glass substrates;

a set of compensation films coupled to at least one of the glass substrates, wherein the set of compensation films are selected based on having a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;

a polarization film coupled to the set of compensation films;

a first electrode and a second electrode coupled to the glass substrates; and

a reverse dispersion phase difference film located between one film of the set of compensation films and the polarization film.

21. (Currently Amended) The display device of Claim ~~10~~ 14, wherein the glass substrates are separated by approximately 2.5 – 3.5 microns.

22. (Currently Amended) ~~The display device of Claim 10~~ A display device comprising:

a liquid crystal layer disposed between glass substrates so that long axes of liquid crystal molecules are oriented orthogonal to the glass substrates;

a set of compensation films coupled to at least one of the glass substrates, wherein the set of compensation films are selected based on having a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;

a polarization film coupled to the set of compensation films; and

a first electrode and a second electrode coupled to the glass substrates;

having wherein the display device has a viewing angle larger than 75 degrees from the top and larger than 74 degrees from the sides at a contrast ratio of 2:1.

23. (Currently Amended) ~~The display device of Claim 10~~ A display device comprising:

a liquid crystal layer disposed between glass substrates so that long axes of liquid crystal molecules are oriented orthogonal to the glass substrates;

a set of compensation films coupled to at least one of the glass substrates, wherein the set of compensation films are selected based on having a total retardation value less than or equal to 200 nm for light having a wavelength of about 550 nm;

a polarization film coupled to the set of compensation films; and

a first electrode and a second electrode coupled to the glass substrates,

wherein the display device has one of a reflective-type and a transmissive-type configuration, and wherein compensation films positioned along a light path have a collective retardation value of 160 nm for light of 550 nm wavelength.